

S E C R E T

NRO REVIEW COMPLETED

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MEMORANDUM FOR: AFCIN - 1C4
Headquarters, USAF

ATTENTION: Major William G. Biely

SUBJECT: Aeronautical Charts on Special Paper for
OXCART/IDEALIST

1. An extensive development program has been under way to produce unique inflight graphic aids for the IDEALIST/OXCART projects. This program was established as the result of a requirement to effectively destroy all map information carried in either vehicle in the event of an emergency.

2. Background: As a member of the President's Foreign Intelligence Advisory Board, General Doolittle was briefed 11 May 1962 on the subject of general approaches to the subject of inflight destruction of classified materiel, and specifically on particular details of the destruct devices within the IDEALIST vehicle. General Doolittle made the point that, irrespective of the total answer to the problem of complete inflight destruction of all classified portions of the vehicle, a capability for effectively destroying map information is an absolute minimum. He left the impression that this map requirement needed no further definition but rather that hardware needed to be developed forthwith.

3. Development: This basic requirement was reviewed by a working committee at this Headquarters on 8 August 1962 after several months' investigation during which field trips were made to aircraft manufacturers, field detachments, and the Aeronautical Chart and Information Center (ACIC), St. Louis, Missouri. At this point in time, it was determined that the technical assistance of ACIC was required and through the assistance of Colonel Geary AFCIG-5 and Lt. Colonel Duncan (AFCIN) the Technical Director of ACIC, Mr. Thomas Finnie was granted an OXCART clearance.

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It was determined that the most practical approach to inflight destruction of all necessary paper, including maps, was to utilize the water soluble paper approach. This system makes use of a water-tight container of suitable size to be mounted in the vehicle within easy reach of the pilot, and which is connected to a source of water. Upon activation of the system, water is introduced into the container whereupon all documents within are reduced to an unreadable "slurry". This hardware is presently in final design stages. The water soluble paper is of German origin and may be described as follows:

"Freudenberg Rapid-Destruction Security paper dissolves very rapidly when immersed in water and other liquids. After less than 60 seconds immersion these papers are reduced to a fibrous slurry bearing no indication of printing or writing. There is no known process by which any original information may be determined by analysis of this residual slurry.

Available in bond-type or "onionskin" companion paper (weight 2.95 or 2.36 ounces per square yard), colors are pink, yellow, green and blue as well as white."

4. Current Status: The initial test run on ACIC's four color printing press has been completed with some degree of success. The initial test utilized 500 sheets of Code 1958A Regular paper and approximately 250 copies of the JN-47 Chart were produced. A number of problems developed on this test run, most of which are relatively minor and can be corrected on the next production run. It was determined, however, that an improved quality of paper would greatly facilitate the production problem, and Mr. Finnie has been requested to attempt to locate an American firm which can provide a more suitable material. In the event that he is not successful, it is now felt that an improved quality of paper can be obtained from our present source.

Concurrently with the search for a better paper, field tests under flight conditions will be accomplished with the sample JN 47 in order to determine the operational suitability of the product.

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A copy of the chart produced in the initial test run is provided as Attachment #1 for your examination and test of its water solubility.

5. Operational Requirements: The production of 33 JN series and 6 GNC series charts is the immediate operational requirement on an as soon as possible basis. When a satisfactory source of the special paper has been determined and the results of field testing are received, an immediate request will be forwarded to AFCIN through AFCIG-5 for production on a priority basis. Additional future requirements will be predicated on the results of this first production run and upon actual operational use.

FOR THE DEPUTY DIRECTOR (RESEARCH)

(Signed) Jack C. Ledford

BY: _____

JACK C. LEDFORD
Colonel USAF

Attachment - 1
As noted above

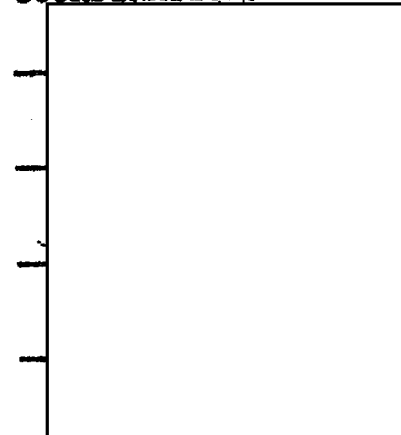
cc: AFCIG-5

OSA/OD/OXC, [] (14 NOV 62)

Distribution:

- #1 - AFCIN (w/att)
- #2 - AFCIG-5 (w/att)
- #3 - AD/OSA (w/o att)
- #4 - DAD/OSA "
- #5 - OSA/DD "
- #6 - OSA/SEC "
- #7 - OSA/C/OD "
- #8 - OSA/MD "
- #9 - OSA/OD/OXC"
- #10- OSA/OD/OXC (Chrono) (w/o att)
- #11- OSA/INTEL (w/o att)
- #12 - OSA/OD/IDEA (w/o att)
- #13 - OSA/RB (w/o att)

COORDINATION:



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